

THE CLAIMS

WHAT IS CLAIMED IS:

1 **1.** A method of automatically dispensing a product to a customer, comprising the
2 steps of:
3 (a) receiving a product selection from the customer;
4 (b) determining whether said product selection qualifies for an alternate
5 product offer;
6 (c) presenting an alternate product offer message if said product selection so
7 qualifies;
8 (d) determining if the customer has accepted said alternate product offer; and,
9 (e) dispensing a first product that corresponds to said alternate product offer if
10 the customer has so accepted, or,
11 (f) dispensing a second product that corresponds to said product selection if
12 the customer has not so accepted.

1 **2.** A method according to Claim 1, wherein a database is provided, said database
2 containing at least one decision rule, and step (b) includes the steps of:
3 (b1) determining if any decision rule in said database is associated with
4 said product selection,
5 (b2) if no decision rule in said database is associated with said product
6 selection, then,
7 determining that said product selection does not qualify for an
8 alternate product offer,
9 (b3) if at least one decision rule in said database is associated with said
10 product selection, then,
11 choosing one of said at least one associated decision rule, and,
12 determining from said chosen decision rule whether said product
13 selection qualifies for an alternate product offer.

1 **3.** A method according to Claim 2,
2 wherein a plurality of decision rules in said database are identified in step (b1) as
3 being associated with said product selection, and
4 wherein the step of choosing comprises:
5 (i) choosing one of said plurality of decision rules according to
6 a predetermined rule selection hierarchy.

1 **4.** A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) choosing an alternate product,
3 (b2) determining an acceptance rate of said chosen alternate product in
4 relation to said product selection, and,
5 (b3) determining whether said product selection qualifies for an
6 alternate product offer based on said acceptance rate.

1 **5.** A method according to Claim 5, wherein step (b3) includes the step of:
2 (i) determining that said product selection qualifies for an
3 alternate product offer if said acceptance rate is greater than a
4 predetermined value.

1 **6.** A method according to Claim 1,
2 wherein there is at least one product item associated with said product selection
3 and each of said at least one product item has an expiration date associated
4 therewith,
5 and wherein step (b) includes the steps of:
6 (b1) choosing an alternate product having at least one product item
7 associated therewith,
8 (b2) determining an expiration date for a predetermined one of said at

9 least one product item associated with said alternate product, and,
10 (b3) determining that said product selection qualifies for an alternate
11 product offer if said determined expiration date of the predetermined
12 product item is a later date than said expiration date of the predetermined
13 alternate product item.

1 7. A method according to Claim 6, wherein said predetermined one of said at least
2 one product item associated with said alternate product is a next vendible product item.

1 8. A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) choosing an alternate product having at least one product item
3 associated therewith, each of said at least one product item having an
4 expiration date associated therewith,
5 (b2) determining an item expiration date for a predetermined one of said
6 at least one product item associated with said alternate product, and,
7 (b3) using said item expiration date to determine whether said product
8 selection qualifies for an alternate product offer.

1 9. A method according to Claim 1, wherein there is at least one product item
2 associated with said product selection, and wherein step (b) includes the steps of:
3 (b1) determining an item expiration date for a predetermined one of said
4 at least one product item associated with said product selection, and,
5 (b2) using said item expiration date to determine whether said product
6 selection qualifies for an alternate product offer.

1 10. A method according to Claim 1,
2 wherein there is a profit margin associated with said product selection,
3 and,
4 wherein step (b) includes the steps of:

5 (b1) choosing an alternate product,
6 (b2) obtaining a profit margin associated with said alternate product,
7 and,
8 (b3) determining that said product selection qualifies for an alternate
9 product offer if said alternate product profit margin is greater than said
10 profit margin associated with said product selection.

1 11. A method according to Claim 10,
2 wherein there is at least one product item associated with said chosen
3 alternate product,
4 wherein each of said at least one product item associated with said chosen
5 alternate product has an expiration date, and,
6 wherein said profit margin associated with said alternate product is chosen
7 to be a function of said expiration date.

1 12. A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) selecting an alternate product,
3 (b2) determining an available quantity of vendible product items
4 associated with said product selection, and,
5 (b3) using said available quantity of vendible product items associated
6 with said product selection to determine whether said product selection
7 qualifies for an alternate product offer.

1 13. A method according to Claim 12,
2 wherein an database is provided, said database containing a count of
3 vendible items associated with at least said product selection and,
4 wherein step (b2) includes the step of:
5 (i) determining from said database an available quantity of
6 vendible items associated with said product selection.

1 **14.** A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) selecting an alternate product,
3 (b2) determining an available quantity of vendible product items
4 associated with said alternate product, and,
5 (b3) using said available quantity of vendible product items associated
6 with said alternate product to determine whether said product selection
7 qualifies for an alternate product offer.

1 **15.** A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) determining a demand rate for said product selection,
3 (b2) choosing an alternate product,
4 (b3) determining a demand rate for said alternate product,
5 (b4) comparing said demand rate for said product selection and said
6 demand rate for said alternate product, and,
7 (b5) determining based on said step of comparing whether said product
8 selection qualifies for an alternate product offer.

1 **16.** A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) selecting an alternate product,
3 (b2) determining a demand rate for said product selection,
4 (b3) comparing said demand rate with a predetermined rate, and,
5 (b4) determining based on said step of comparing whether said product
6 selection qualifies for an alternate product offer.

1 **17.** A method according to Claim 1, wherein step (b) includes the steps of:
2 (b1) selecting an alternate product, said alternate product having at least
3 one product item associated therewith,
4 (b2) determining a number of days until expiration for a predetermined
5 one of said at least one product item associated with said alternate product,

6 (b3) comparing said number of days until expiration with a
7 predetermined number of days, and,
8 (b4) determining based on said step of comparing whether said product
9 selection qualifies for an alternate product offer.

1 **18.** A method according to Claim 1, wherein said alternate product offer message
2 includes an offer of an incentive for the customer to purchase another item.

1 **19.** A method according to Claim 18, wherein said offer of an incentive is an offer of
2 a future incentive.

1 **20.** A method according to Claim 18, wherein said offer of an incentive is
2 accompanied by a presentation of a coupon code representative of said offer of an
3 incentive.

1 **21.** A method according to Claim 20, wherein said coupon code comprises a character
2 sequence.

1 **22.** A method according to Claim 21, wherein a representative of an offer expiration
2 date is encoded within said character sequence.

1 **23.** A method according to Claim 18, wherein said another item is a product item
2 associated with said alternate product offer.

1 **24.** A method according to Claim 18, wherein said offer of an incentive is an offer of
2 a discount in price.

1 **25.** A method according to Claim 24, wherein said offer of a discount is an offer of a
2 present discount.

1 **26.** A method according to Claim **24**, wherein said offer of a discount in price
2 includes an offer of a discount for an item corresponding to said alternate product offer.

1 **27.** A method according to Claim **1**, wherein said alternate product offer message
2 includes an offer of a plurality of different alternate products.

1 **28.** A method according to Claim **1**, wherein step (f) includes the steps of:
2 (f1) determining whether said product selection qualifies for a further
3 alternate product offer,
4 (f2) presenting a further alternate product offer message if said product
5 selection so qualifies,
6 (f3) determining if the customer has accepted said further alternate
7 product offer, and,
8 (f4) dispensing a third product that corresponds to said further alternate
9 product offer if the customer has so accepted, and,
10 (f5) dispensing a second product that corresponds to said product
11 selection if the customer has not so accepted.

1 **29.** A method according to Claim **1**, wherein step (a) includes the step of:
2 (a1) receiving an amount of money from the customer.

1 **30.** A method according to Claim **29**, wherein said amount of money is greater than a
2 price of said product selection and wherein said alternate product offer message includes
3 an offer to purchase an alternate product having a higher price than said price of said
4 product selection.

1 **31.** A method according to Claim **30**, wherein said offer to purchase said alternate
2 product includes an offer to purchase said alternate product at a special price
3 approximately equal to said amount of money received from the customer.

1 **32.** A method according to Claim **31** wherein said special price is a discounted price.

1 **33.** A method according to Claim **1**, wherein step (c) includes the steps of:

2 (c1) selecting a plurality of products, each of said plurality of products
3 having a profit margin associated therewith,

4 (c2) determining which of said associated profit margins is a largest
5 profit margin,

6 (c3) identifying which of said plurality of products is associated with
7 said largest profit margin,

8 (c4) selecting for presentation in an alternate product offer message any
9 product so identified, and,

10 (c5) presenting said alternate product offer message if said product
11 selection so qualifies.

1 **34.** A storage device adapted for use with a microprocessor wherein a plurality of
2 computer instructions defining the method of Claim **1** are encoded, said storage device
3 being readable by said microprocessor, and said computer instructions directing said
4 microprocessor to perform said method.

1 **35.** A storage device according to Claim **34**, wherein said storage device is selected
2 from the group consisting of computer RAM, computer ROM, a PROM chip, flash RAM,
3 a ROM card, a RAM card, a floppy disk, a magnetic disk, a magnetic tape, a magneto-
4 optical disk, an optical disk, a CD-ROM disk, or a DVD disk.

1 **36.** A method of dispensing one of a plurality of types of items to a customer from a
2 vending machine, comprising the steps of:

3 (a) receiving an original product selection from the customer;

4 (b) selecting an alternate product offer rule associated with said original
5 product selection;

- 6 (c) evaluating said selected alternate product rule, thereby producing an
7 evaluated result;
- 8 (d) depending on said evaluated result, either,
9 dispensing a product corresponding to said original product
10 selection, or
11 presenting an alternate product offer to the customer; and,
- 12 (e) if said alternate product offer is presented to the customer,
13 (e1) sensing a response by the customer to said alternate product offer;
14 and,
15 (e2) dispensing either a product corresponding to said original product
16 selection or a product corresponding to said alternate product offer
17 according to the customers response.

1 37. A method according to Claim 36, wherein a rules database is provided, said rules
2 database containing at least one decision rule therein, and step (b) includes the steps of:
3 (b1) identifying any decision rule in said rules database associated with
4 said product selection,
5 (b2) if no decision rule in said rules database is so identified,
6 choosing a null rule as an associated alternate product offer rule,
7 and,
8 (b3) if at least one decision rule in said rules database is so identified,
9 then,
10 choosing one of said at least one identified associated alternate
11 product offer rules.

1 38. A storage device adapted for use with a microprocessor wherein a plurality of
2 computer instructions defining the method of Claim 36 are encoded, said storage device
3 being readable by said microprocessor, and said computer instructions directing said
4 microprocessor to perform said method.

1 **39.** A storage device according to Claim 38, wherein said storage device is selected
2 from the group consisting of computer RAM, computer ROM, a PROM chip,
3 flash RAM, a ROM card, a RAM card, a floppy disk, a magnetic disk, a magnetic
4 tape, a magneto-optical disk, an optical disk, a CD-ROM disk, or a DVD disk.

1 **40.** A method of vending an item to a customer, comprising the steps of:
2 (a) receiving an initial product selection signal from the customer;
3 (b) determining a product selection corresponding to said initial product
4 selection signal;
5 (c) determining according to a decision rule whether said product selection
6 qualifies for an alternate product offer;
7 (d) if said product selection does not qualify for an alternate product offer,
8 generating a signal representative of an instruction to dispense an item of a type
9 corresponding to said product selection; and,
10 (e) if said product selection does qualify for an alternate product offer,
11 (e1) presenting an alternate product offer to the customer,
12 (e2) receiving a signal representative of the customer's response to said
13 alternate product offer; and,
14 (e3) generating a signal representative of an instruction to dispense an
15 item of a type corresponding to the customer's response.

1 **41.** A vending machine apparatus for presenting alternate product choices to a
2 customer, comprising:
3 (a) a vending machine capable of distributing a plurality of product types, said
4 vending machine having an input device for receiving at least a product selection
5 from said customer;
6 (b) a microprocessor, said microprocessor
7 controlling the distribution of said plurality product types by said vending
8 machine according to the method of Claim 40,

9 being in electrical communication with said input device, and,
10 being responsive to said input device; and,
11 (c) a message output device responsive to said microprocessor, said message
12 output device for presenting said alternate product offer message to
13 customer.

1 42. A vending machine apparatus according to Claim 41, wherein said message output
2 device includes at least one element selected from the group consisting of an audio
3 speaker, an LED display, an LCD display, a video display device, a touch sensitive video
4 display device, or a printer.